ST53SD

Self Contained Breathing Apparatus

User Manual

User Manual
for the
ST53SD
(Short Duration)
Self Contained Breathing Apparatus

WARNING

Disassembly of the components beyond the procedures described herein shall not be performed. Additional disassembly may cause component damage and shall only be performed by authorized personnel or the factory.

AVON
PROTECTION

Sales and Marketing-International
Avon Protection Systems
Hampton Park West, Semington Road
Melksham, Wiltshire, SN12 6NB
Tel: +44 (0)1225 896705
Fax: +44 (0)1225 896301
E-mail: protection@avon-rubber.com
www.avon-protection.com

Sales and Marketing-USA
Avon Protection Systems
1369 Brass Mill Road
Belcamp, MD 21017
410-273-0124

Manufacturing
Avon-ISI
922 Hurricane Shoals Road
Lawrenceville, GA 30043 USA

ISO 9001 Certified

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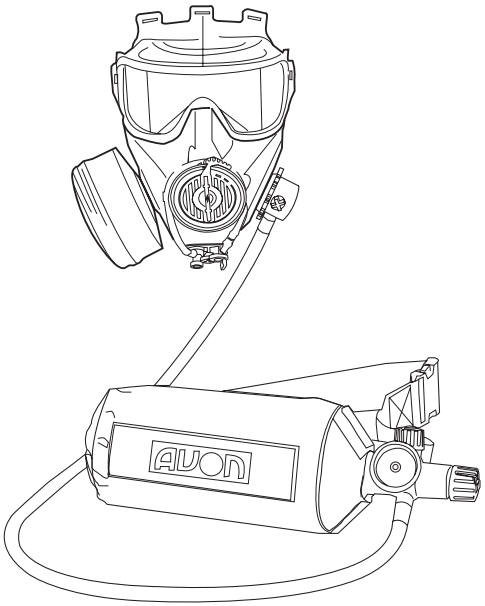

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Application / Limitations / Use

The ST53SD short duration breathing apparatus/combination filtering respirator is designed for use in situations where high levels of protection are required in extremely hazardous environments and where oxygen deficient atmospheres may be encountered. The ST53SD uses the FM53 CBRN full face mask.

CE Type-Examination conducted by Notified Body BSI 0086 HP2 4SQ UK. The system has been assessed to the requirements of the PPE directive 89/686/EEC.

Production Quality Control Examination conducted by Notified Body BSI 0086 HP2 4SQ UK.

The ST53SD is available only to specialist groups who are fully trained in its use.

Prior to using ST53SD, all user instructions must be read and understood. Refer to the FM53 user manual for information on the face mask.

There are limitations of use associated with the FM53 mask. The mask must not be used in areas where there is a high fire risk. It is always advisable to use a hood to cover the head harness.

When using at very high breathing rates in positive pressure SCBA mode, the pressure inside the facemask may become negative at peak inhalation.

It is unlikely that the requirements for leakage will be achieved if facial hair or spectacle side arms pass under the face seal.

Use in negative pressure filtering mode:

Always choose a filter canister suitable for the contaminant(s) known to be in the atmosphere or likely to be released into the atmosphere. Failure to choose a suitable canister may result in the facemask providing little or no protection against the contaminated atmosphere, leading to serious bodily injury or death.

When used in incidents involving threats from CBRN agents, use a CBRN filter offering protection against the agent of concern.

Use in positive pressure SCBA mode:

Always switch the facemask to positive pressure mode and use cylinder filled with breathing air complying with the requirements of EN 12021:1999.

IMPORTANT
All personnel using this apparatus should be thoroughly trained by a qualified instructor in donning, operation, inspection and emergency operation.

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1.0 Pre-Use Checks

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Facemask

The FM53 facemask is CE certified by Notified Body BSI 0086 HP2 4SQ UK (certification number 553554).

Read and understand the FM53 user instructions p/n 70501/291 prior to using the mask.

Ensure correct size of mask has been selected. Refer FM53 user instructions.

If necessary remove filter port plug, using plug tool. Retain plug for future use.

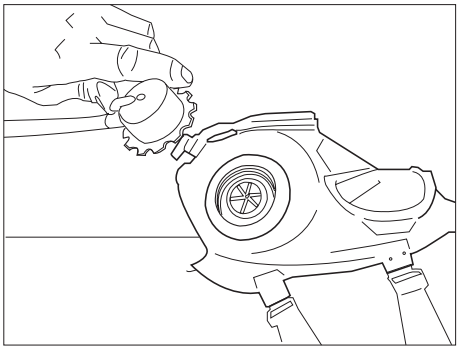
Connect suitable filter to inlet port.

Ensure VREU lever is set to negative pressure mode (lever vertical).

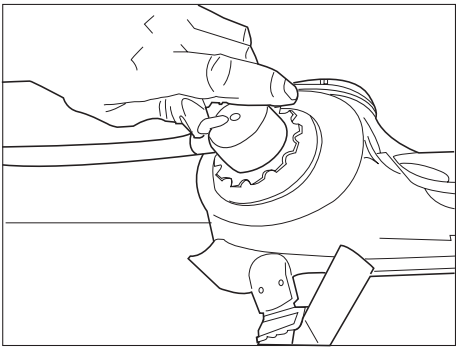
ST53SD SCBA

Inspect cylinder cover, harness assembly, waistbelt, gauge hose and demand valve for damage. Replace before use if damaged.

Connect demand valve to second inlet port on facemask. Ensure hose is connected to cylinder hose coupler.



Press First Breath positive reset button to close demand valve.



Cylinders

Inspect cylinder valve, fill adapter, gauge and handwheel for damage prior to use. Replace before use if damaged.

Ensure cylinder is completely full prior to use. Recharge only with air meeting the requirements

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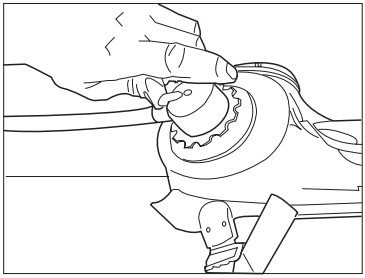
ST53SD SCBA

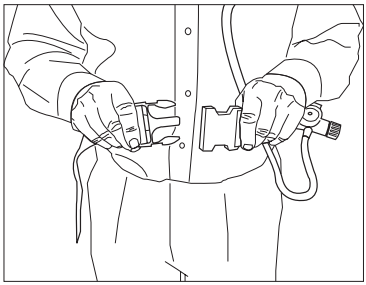
Connect demand valve to facemask. Press First Breath positive reset button to prevent air flowing into facemask.



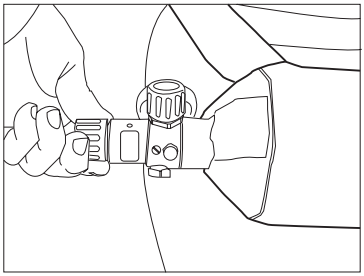
Extend waistbelt strap

Place cylinder in small of back; grasp short side of waist belt in left hand and with right hand wrap adjustable end around body and connect two ends together at front.

Adjust waistbelt length to keep cylinder stable.



Open cylinder valve fully.



Facemask

Don facemask in accordance with FM53 user instructions.

Ensure demand valve hose not twisted and is routed securely under arm.

Breathe through filter.

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2.0 Donning and Fitting

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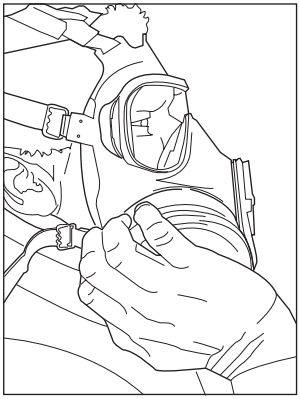
Positive Pressure Check

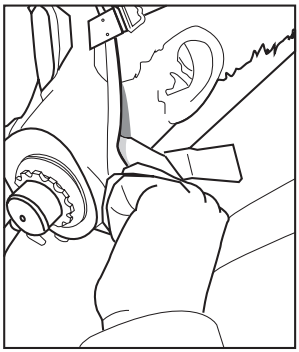
Warning: The available breathing air in the 1 litre and 2 litre SD cylinders is very limited. Users may choose to omit this test to conserve air.

Adjust VREU lever to positive pressure position.

Hold hand over filter inlet port. Inhale to activate demand valve.



Place finger between face and mask seal, check for outward flow of air and quickly remove finger.



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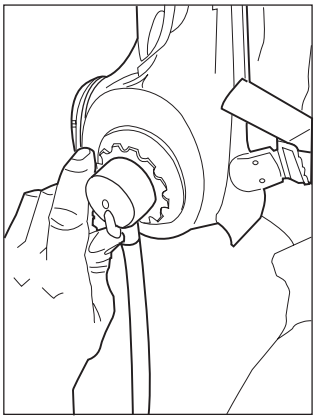
Depress inward on button to ensure first breath is closed.



Re-set VREU to negative pressure position (lever vertical)

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3.0 Use

Using ST35SD in negative pressure mode

Breathe through filter, UNTIL oxygen deficient or other atmosphere requiring supplied breathable air suspected or detected.

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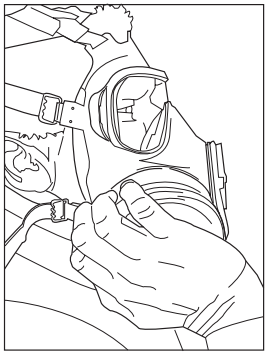
Warning: It is unlikely that the requirements for leakage will be achieved if facial hair or spectacle side arms pass under the face seal.

Using ST53SD in positive pressure Breathing Apparatus mode

You must use ST53SD in positive pressure SCBA mode when the surrounding atmosphere is deficient in oxygen (<19.5% 0_2).



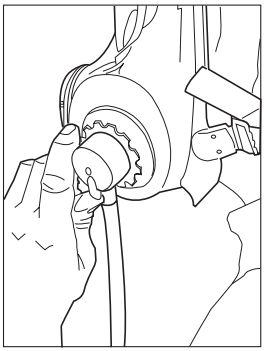
Adjust VREU lever to positive pressure position.

Hold hand over filter inlet port and breathe in to trigger first breath positive.

Immediately leave toxic or oxygen deficient atmosphere

Warning: ST53SD in negative pressure filtering mode does not provide protection in an oxygen deficient atmosphere.

Note: The ST53SD variants (remote gauge or integral cylinder gauge) do not have an audible low air alarm. Wearers must monitor the pressure gauge to ensure ample air supply.



When it is safe to do so, or breathable air supply is exhausted, press First Breath positive reset button to ensure demand valve is closed.

Re-set VREU lever to negative pressure position (lever vertical).

Breathe through filter.

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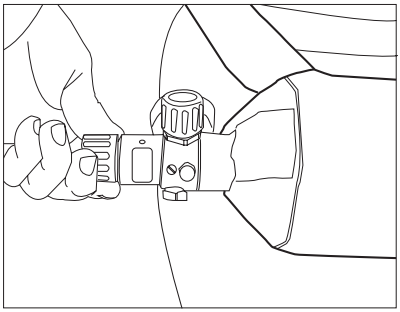
Doffing (removing) the ST53SD

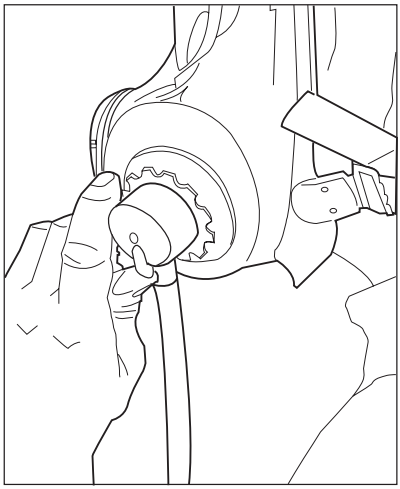
If in Positive Pressure mode, close cylinder valve by rotating the handwheel. Depress the first breath positive reset button.



Remove mask following procedure in FM53 user instructions.

If in negative pressure filtering mode, remove mask following procedure in FM53 user instructions.

Undo waistbelt and remove apparatus.



If the demand valve hose is pressurised after doffing, hold facemask tightly to wearer's face, cover filter inlet and breathe in. This action will activate first breath positive and deplete overpressure in hose.

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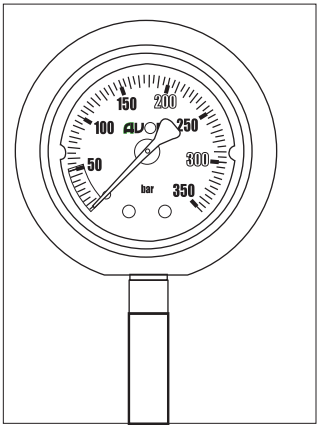
5.0 Remote Gauge

Remote Gauge Option

An optional remote pressure gauge is available on the ST53SD.

The gauge is connected to the cylinder valve by a hose so that it is positioned and attached to the waistbelt where a user can read the gauge.



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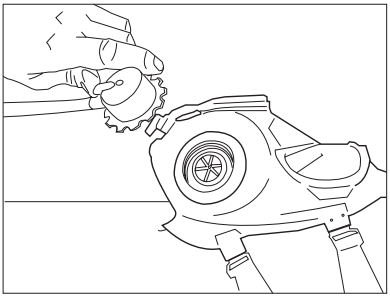
Facemask



Unscrew and remove the demand valve from the facemask. Unscrew and remove the filter, if fitted.

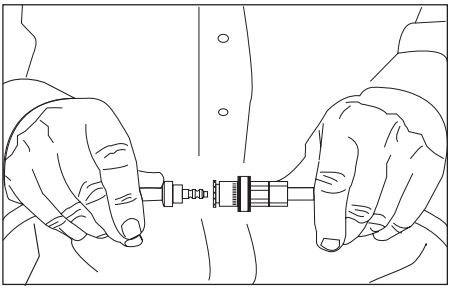
Immerse the facemask in warm water solution containing Hibitane or a mild, baby-type, non-allergic soap.

DO NOT USE DETERGENT, SPIRIT OR SOLVENT CLEANER.

Clean the facemask inside and out in this solution, wiping with a soft, lint-free cloth (face cloth) particularly under the reflex seal.

Allow to air dry.

SCBA



Disconnect demand valve from set via the quick release coupling. Press inward on male plug assembly and pull back on socket sleeve.

Wipe clean demand valve, hose and coupling with cloth dipped in cleanng solution, then with warm water.

Wipe clean cylinder bag and harness using same disinfectant solution.

Air dry and re-assemble apparatus.

Re-fill cylinder with breathable air conforming to EN 12021 : 1999

Perform pre-use checks.

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7.0 Maintenance and Storage

Maintenance

Maintenance, other than normal user checks, must not be performed on the facemask or breathing apparatus system without the necessary training and reference to the maintenance manual. Refer to maintenance manual for inspection intervals.

Storage and Transportation

The FM53SD and facemask should be stored in a clean and dry environment, ideally within the temperature and relative humidity limits of 20 ºC ± 10 ºC, <80% RH . They should not be stored or transported under heavy or sharp objects. They should not be stored or transported where they could be exposed to extremes of temperatures or direct sunlight. Original packaging should be retained and used for transportation. The packaging will avoid possible damage to components such as cylinder valves, which must be protected from impact during transportation. Alternatively Avon supplies a weatherproof carry-case specifically for ST53SD, which is designed to protect all components.

Shelf Life

The designed life of ST53SD and FM53 is a minimum of 10 years from the date of manufacture.

Decontamination

If the apparatus has been exposed to CBRN environment, it is essential that the doffing procedure and the decontamination of the wearer and the apparatus are carried out in line with national procedures.

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8.0 Markings

Part number and Serial number: markings are located on cylinder valve of product.

Date of manufacture: marked externally on storage package and on cylinder valve of product.

Pictograms visible externally on storage package:

Read Instructions before Use

Min/Max Storage Temperatures

Maximum Storage Humidity

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9.0 Warranty

IMPORTANT WARRANTY INFORMATION:

EACH PRODUCT IS SHIPPED WITH A WARRANTY CARD. TO RECEIVE TECHNICAL UPDATES ON THIS PRODUCT YOU MUST REGISTER ONLINE OR COMPLETE AND RETURN THE LOWER PORTION OF THE WARRANTY CARD.

Register your equipment online at www.avon-isi.com

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Contact Information

In the event of a product concern, contact your authorized distributor or Avon Protection Systems, who will provide the necessary information for issue resolution. To report any serious concerns or to speak with a certification organization, use the following contact information:

Avon Protection Systems
Hampton Park West
Melksham, Wiltshire SN12 6NB
Telephone:+44 (0) 1225 896705
Fax:+44 (0) 1225 896301
e-mail:protection@avon-rubber.com
web-page: www.avon-protection.com

North American Sales Office
Avon Protection Systems
PHONE 888-AVON-440

Manufacturer
Avon-ISI
Phone: 888-474-7233

Certifying Agency
BSI 0086 HP2 4SQ UK
Phone: +44 (0) 8450 765600

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